STEREO IMAGE REGISTRATION SYSTEM

STUDY

Date: 20 February 1964

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PROJECT AUTHORIZATION REQUEST

No. 222

20 February 1964

TITLE: Stereo Image Registration System

TASK/PROBLEM

Investigate possible means for automatically maintaining proper registration for stereo viewing on rear projection and direct viewing roll film viewers.

PROPOSAL

It is proposed that a study phase be authorized to determine the feasibility of an automatic control system that will maintain stereo registration for stereo viewing on rear projection and direct viewing roll film viewers. It will be necessary to devise an automatic control system that will generate scan signals which will contain and furnish the following four types of information:

1. Magnitude and direction of X-coordinate error.
2. Magnitude and direction of Y-coordinate error.
3. Magnitude and direction of θ-coordinate error.
4. Magnitude and direction of M-magnification error.

Breadboarding and testing will be conducted to generate scan signals from stereo pairs with the signals processed in logic circuits to extract the needed control from the signal. The breadboarding of electronic controls will only be carried to a point sufficient to determine if the approach(s) is feasible.

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Studies will be conducted to determine the most suitable and effective size of the scan raster and scanning spot. Methods of generating the raster and their suitability for application to various stereo viewers and projectors will be studied and recommendations made as to the most suitable approach.

The objective of this study will be a final report discussing in detail all approaches studied during the course of this investigation. The report will also contain recommendations for:

1. Feasibility of additional study in this area.
2. Fabrication of prototype equipment.